

## SHORT COMMUNICATION

### On the taxonomy of Trechaleidae (Araneae: Lycosoidea) from South America

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**Abstract.** A new species of *Trechalea* Thorell 1869, *T. rothi* from Colombia, South America, is described, illustrated and compared with the only other two species of the genus also known from Colombia, *T. longitarsis* (C.L. Koch 1848) and *T. lomalinida* Carico 1993. Additionally, it is compared with the similar species, *T. trinidadensis* Carico 1993. A single female from Pará, Brazil, is also described and illustrated as a new species, *Enna xingu*, based on features of the genitalia.

**Keywords:** Taxonomy, morphology, new species, Neotropical region

The genus *Trechalea* Thorell 1869 was revised by Carico (1993), who redescribed seven species and described three new species. This genus occurs from the southern USA to southern Brazil (Platnick 2009). Representatives of *Trechalea* can be distinguished from *Syntrechalea* F.O. Pickard-Cambridge 1902 and *Hesydrus* Simon 1898 by having only the tarsi flexible; the latter two genera present both flexible tarsi and metatarsi. *Trechalea* can also be separated from the other two genera by the male palpal bulb; median apophysis with acute, conspicuous guide; ventral division variable but thickened, tibial retrolateral apophysis divided with ental division distinct, often lobed and partly surrounded by ventral-cymbium tibial membrane, ectal division conspicuous and in various forms. Female epigynal plate with middle field about as wide as long or only slightly longer than wide, usually widest anteriorly.

The single female specimen that is the subject of this paper was found in a collection of unidentified material borrowed from the California Academy of Sciences, San Francisco, California. In a recent revision of the genus (Carico 1993), the total number of species in this mostly Neotropical genus was determined to be eleven, and that number remains to date (Platnick 2009). With the new species described herein, the total number rises to twelve.

The genus *Enna* was recently revised by Silva et al. (2008), and this genus is now considered the most diverse in the family Trechaleidae, with 24 known species occurring from Mexico to southern Brazil (Platnick 2009). Most of the species occur in Central America.

The representatives of *Enna* resemble *Dosseus* Simon 1898 by the shape of the dorsal division of the median apophysis (Silva et al. 2007, fig. 5), which is concave and ends in an acute guide, and by the tarsi and metatarsi, which are short and straight when compared to the long and flexible tarsi of *Trechalea* Thorell 1869 and *Trechaleoides* Carico 2005. The middle field of the female epigynum is conspicuous, hood-like, concave beneath, and comprises part of the dorsal rim of the epigastric furrow (Silva et al. 2008).

A female spider of the genus *Enna* was found in a shipment of unidentified pisaurids and trechaleids from the National Museum of Natural History, Washington, D.C., and is here described as a new species. This new species further illustrates the unique biogeographic pattern of the genus that is presented in the generic revision of this Neotropical genus (Silva et al. 2008). Specifically, the numerous members of the genus tend to be found with limited distributions in very scattered localities ranging from southern Mexico to Bolivia.

The objective of this work is to describe and illustrate a new species of *Trechalea* from Colombia and a new species of *Enna* from northern Brazil.

#### METHODS

The material examined is deposited in California Academy of Sciences, San Francisco (CAS: C. Griswold) and National Museum of Natural History, Washington, D.C. (USNM: J.A. Coddington). The nomenclature of the female epigynal structures follow Carico (1993) and Silva et al. (2008). To study the excised epigyna, the soft tissue was removed by a combination of dissection with a small surgical blade and immersion in the enzyme trypsin for 48 h at 25° C to remove the soft tissue. All the measurements are in mm. The abbreviations relate to eye measurements, including diameter, interdistances and median ocular quadrangle, following Carico (1993) and Silva et al. (2008).

Family Trechaleidae Simon 1890  
Subfamily Trechaleinae Simon 1890  
Genus *Trechalea* Thorell 1869

**Type species.**—*Triclarina longitarsis* C.L. Koch 1848, original designation.

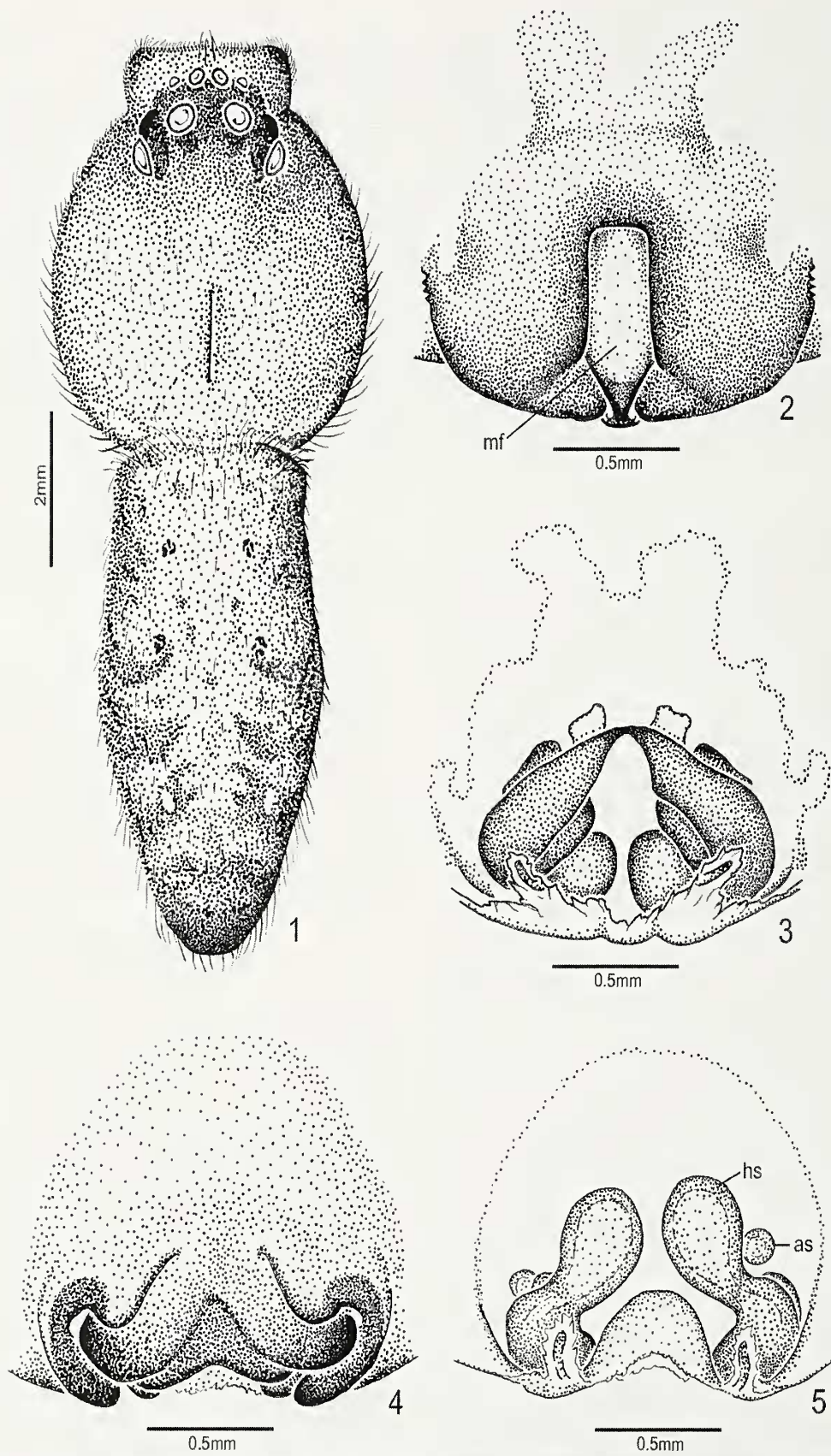
*Trechalea rothi* new species  
Figs. 1–3

**Type specimen.**—Holotype female, COLOMBIA: Meta: Puerto Lleras (72°22'W, 03°18'N), March 1994, B.T. Carroll, V. & B. Roth leg. (CAS).

**Etymology.**—The species name is in honor of a collector of the specimen, Vincent D. Roth, for his many contributions to Arachnology.

**Diagnosis.**—This species differs from other Colombian species by the following characters: *Trechalea longitarsis* (C.L. Koch 1848) has a higher number of tibial ventral macrosetae pairs (I-4, II-4, III-3, IV-3), light submarginal carapace bands, unmarked legs, and an epigynum whose middle field is wider anteriorly. *Trechalea lomalinida* Carico 1993 has the middle field of the epigynum triangular and internally the accessory spermathecae is more slender and not dark in color. *T. rothi* resembles most closely the female of *T. trinidadensis* Carico 1993, but the latter has 5, 5, 3, 3 tibial ventral macrosetae pairs versus 4, 4, 3, 3 for *T. rothi*, a different abdominal dorsal pattern, and an epigynum with a significantly wider middle field. *T. trinidadensis* is currently known only from Trinidad (Carico 1993) and Rio Solimões, Amazonas, Brazil (Carico 2008).

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Figures 1-5.—Two new trechalid spiders. 1-3. *Trechalea rothi* new species: 1. Dorsal pattern of female; 2. Epigynum, ventral view; 3. Epigynum, dorsal view. 4, 5. Epigynum of *Emma xingu* new species: 4. Ventral view; 5. Dorsal view. Abbreviations: as = accessory spermathecae; hs = head of spermathecae; mf = middle field.

**Description.**—*Female (holotype)*: Carapace (Fig. 1) low, cephalic area not elevated, length 5.3, width 5.2, light brown with indistinct pattern, narrow dark marginal band, dark in eye region. Sternum light, unmarked, length 2.8, width 2.6; labium dark brown, lighter at anterior margin, length 1.16, width 1.00. Clypeus height 1.20, width 2.56. Anterior eye row straight, a cluster of strong setae posterior to each PLE, measurements: AE 2.60, PE 5.20, OQA 1.60, OQP 2.72, OQH 2.24, PLE 1.16, PME 1.16, ALE 0.36, AME 0.64, PLE–PME 0.92, PME–PME 0.68, ALE–AME 0.12, AME–AME 0.32. Chelicerae face dark brown, darker distally, clothed in long light hairs, three prolateral teeth, equidistant, middle largest; three prolateral teeth, equal size, distal two closer. Leg segment lengths: femur, patella-tibia, metatarsus, tarsus, total: I – 7.9, 10.3, 6.2, 3.8, 28.2; II – 8.3, 10.1, 6.9, 4.2, 29.5; III – 7.1, 8.0, 6.3, 4.1, 25.5; IV – 9.4, 10.6, 9.6, 5.5, 35.1; tibial ventral macrosetae pairs: I-4, II-4, III-3, IV-3. Color of legs light, darker above with irregular maculae. Abdomen (Fig. 1) length 6.8, dorsally with three pairs of distinct dark spots amid other irregular markings, long setae at anterior edge and laterally at the outer edge, light ventrally. Epigynum middle field about twice as long as wide, straight sides, white but black at posterior tip (Fig. 2); internal structures heavily sclerotized and dark, accessory spermathecae large, conspicuous, positioned diagonally, with head of spermathecae (*hs*) small, lying upon anterior surface of the later (Fig. 3).

**Male.**—Unknown.

**Natural history.**—Unknown.

**Distribution.**—Known only from the type locality.

**Note.**—This specimen was collected with a female of *Trechalea lomalinda* Carico 1993.

Genus *Enna* O. Pickard-Cambridge 1897

**Type species.**—*Enna velox* O. Pickard-Cambridge 1897, by original designation.

*Enna xingu* new species

Figs. 4, 5

**Material examined.**—Holotype female: BRAZIL: *Pará*: ca 60 km S. Altamira, Rio Xingu Camp, (52°22'W, 03°39'S), 1–7 Oct. 1986, P. Spangler & O. Flint leg. (USNM 2048172).

**Etymology.**—The name is a noun in apposition derived from the name of the type locality.

**Diagnosis.**—This species is distinguished by details of the genitalia, specifically by the width and indented margin of the posterior part of the middle field of the epigynum and the rim of the posterior concavity beneath the hood-like middle field is almost circular in posterior view (Figs. 4, 5).

**Description.**—*Female (holotype)*: Carapace (crushed, dimensions estimated) length 4.3±, width 3.0±. Sternum length 1.64, width 1.80, light, unmarked; labium length 0.76, width 0.72, dark brown,

lighter distally. Clypeus height 0.32, width 1.92. Carapace light, dark in ocular area. Anterior eye row straight. Eye measurements: AE 0.96, PE 1.84, OQA 0.58, OQP 1.00, OQH 0.65, PLE 0.33, PME 0.30, ALE 0.18, AME 0.22, PLE–PME 0.32, PME–PME 0.48, ALE–AME 0.05, AME–AME 0.17. Chelicerae medium brown, becoming gradually lighter distally; cheliceral teeth: promarginal 3, middle largest, remainder subequal; retromarginal 3, subequal, equidistant. Color of legs light with indistinct, faint pattern on dorsal side of femora and tibiae. Leg segment lengths: I – femur 4.4, patella-tibia 5.9, metatarsus 4.1, tarsus 1.9, total 16.3; II – 4.3, 5.5, 3.8, 1.7, 15.3; III – 3.5, 4.1, 3.0, 1.3, 11.9; IV – 4.3, 5.1, 4.9, 1.9, 16.2; total leg length sequence: I-III-II-IV; ventral macrosetae pairs on tibiae: I-4, II-4, III-3, IV-3. Abdomen length 4.5; light background color; dorsum mostly with small, scattered, dark maculae, but with a pair of large maculae centrally; sides with parallel dark lines; venter dusky. Middle field (*mf*) of epigynum much wider than long, incurved and very dark at posterior margin (Fig. 4); head of spermathecae (*hs*) large, dorsal, conspicuous, and mostly obscuring the small accessory spermathecae (*as*) from dorsal view (Fig. 4).

**Male.**—Unknown.

**Natural history.**—Unknown.

**Distribution.**—Known only from the type locality.

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#### LITERATURE CITED

- Carico, J.E. 1993. Revision of the genus *Trechalea* Thorell (Araneae, Trechaleidae) with a review of the taxonomy of the Trechaleidae and Pisauridae of the Western Hemisphere. *Journal of Arachnology* 21:226–257.
- Carico, J.E. 2008. The male of *Trechalea trinidadensis* (Araneae, Lycosoidea, Trechaleidae). *Journal of Arachnology* 36:171–172.
- Platnick, N.I. 2009. The World Spider Catalog, Version 10.0. American Museum of Natural History, New York. Online at <http://research.amnh.org/entomology/spiders/catalog/index.html>
- Silva, E.L.C., A.A. Lise & J.E. Carico. 2007. Revision of the Neotropical spider genus *Dossemis* (Araneae, Lycosoidea, Trechaleidae). *Insect Systematics & Evolution* 38:139–148.
- Silva, E.L.C., A.A. Lise & J.E. Carico. 2008. Revision of the neotropical spider genus *Enna* (Araneae, Lycosoidea, Trechaleidae). *Journal of Arachnology* 36:76–110.

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